Abstract

A system enables a bi-directional communication device such as a modem to facilitate local communication between the modem and an attached PC as well as to enable the PC to conduct concurrent Internet and local communication. A bi-directional communication system employs a method for seamlessly communicating packetized data between different networks using hierarchical layers of communication protocols (e.g. including Internet Protocol (IP) and Media Access Control (MAC) layers). The method involves comparing a received IP packet destination address in a first protocol layer with a predetermined IP address to determine if there is an address match. Upon such an address match, a payload of the received IP packet is redirected from an Internet network to a local network (e.g. an Ethernet, HPNA or USB network) by substituting a second protocol layer address for a received second protocol layer address (e.g. a MAC address). In another feature, a second Application (e.g. peripheral control) is initiated to operate concurrently with a first Application (e.g. web surfing) in response to receiving the redirected payload data.